

2. ECN Category (mark one) <input type="checkbox"/> Supplemental <input checked="" type="checkbox"/> Direct Revision <input type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedure <input type="checkbox"/> Cancel/Void		3. Originator's Name, Organization, MSIN, and Telephone No. John M. Conner, Data Assessment and Interpretation, R2-12, 373-2711		4. USQ Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		5. Date 05/25/99	
		6. Project Title/No./Work Order No. Tank 241-C-108		7. Bldg./Sys./Fac. No. 241-C-108		8. Approval Designator N/A	
		9. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-WM-ER-503, Rev. 0-B		10. Related ECN No(s). ECNs: 618800, 650553		11. Related PO No. N/A	
12a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 12b) <input checked="" type="checkbox"/> No (NA Blks. 12b, 12c, 12d)		12b. Work Package No. N/A		12c. Modification Work Complete N/A <hr/> Design Authority/Cog. Engineer Signature & Date		12d. Restored to Original Condition (Temp. or Standby ECN only) N/A <hr/> Design Authority/Cog. Engineer Signature & Date	
13a. Description of Change This ECN has been generated in order to update the document to reflect results of recent data/information evaluation. Replace pages: 6-1, 6-2, and 7-3 through 7-6							
13b. Design Baseline Document? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
14a. Justification (mark one) Criteria Change <input checked="" type="checkbox"/> Design Improvement <input type="checkbox"/> Environmental <input type="checkbox"/> Facility Deactivation <input type="checkbox"/> As-Found <input type="checkbox"/> Facilitate Const <input type="checkbox"/> Const. Error/Omission <input type="checkbox"/> Design Error/Omission <input type="checkbox"/>							
14b. Justification Details A tank characterization report page change revision is required to reflect the results of recent evaluation of data/information pertaining to adequacy of tank sampling for safety screening purposes (Reynolds et al. 1999, Evaluation of Tank Data for Safety Screening, HNF-4217, Rev. 0, Lockheed Martin Hanford Corporation, Richland, Washington).							
15. Distribution (include name, MSIN, and no. of copies) See attached distribution.						RELEASE STAMP <div style="border: 1px solid black; padding: 10px; text-align: center;"> DATE: STA: 4 MAY 27 1999 HANFORD RELEASE ID: 2 </div>	

ENGINEERING CHANGE NOTICE

Page 2 of 2

1. ECN (use no. from pg. 1)

ECN-653794

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
<input type="checkbox"/> Yes	Additional	<input type="checkbox"/> \$	Additional	<input type="checkbox"/> \$	Improvement	<input type="checkbox"/>
<input checked="" type="checkbox"/> No	Savings	<input type="checkbox"/> \$	Savings	<input type="checkbox"/> \$	Delay	<input type="checkbox"/>

19. **Change Impact Review:** Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	<input type="checkbox"/>	Seismic/Stress Analysis	<input type="checkbox"/>	Tank Calibration Manual	<input type="checkbox"/>
Functional Design Criteria	<input type="checkbox"/>	Stress/Design Report	<input type="checkbox"/>	Health Physics Procedure	<input type="checkbox"/>
Operating Specification	<input type="checkbox"/>	Interface Control Drawing	<input type="checkbox"/>	Spares Multiple Unit Listing	<input type="checkbox"/>
Criticality Specification	<input type="checkbox"/>	Calibration Procedure	<input type="checkbox"/>	Test Procedures/Specification	<input type="checkbox"/>
Conceptual Design Report	<input type="checkbox"/>	Installation Procedure	<input type="checkbox"/>	Component Index	<input type="checkbox"/>
Equipment Spec.	<input type="checkbox"/>	Maintenance Procedure	<input type="checkbox"/>	ASME Coded Item	<input type="checkbox"/>
Const. Spec.	<input type="checkbox"/>	Engineering Procedure	<input type="checkbox"/>	Human Factor Consideration	<input type="checkbox"/>
Procurement Spec.	<input type="checkbox"/>	Operating Instruction	<input type="checkbox"/>	Computer Software	<input type="checkbox"/>
Vendor Information	<input type="checkbox"/>	Operating Procedure	<input type="checkbox"/>	Electric Circuit Schedule	<input type="checkbox"/>
OM Manual	<input type="checkbox"/>	Operational Safety Requirement	<input type="checkbox"/>	ICRS Procedure	<input type="checkbox"/>
FSAR/SAR	<input type="checkbox"/>	IEFD Drawing	<input type="checkbox"/>	Process Control Manual/Plan	<input type="checkbox"/>
Safety Equipment List	<input type="checkbox"/>	Cell Arrangement Drawing	<input type="checkbox"/>	Process Flow Chart	<input type="checkbox"/>
Radiation Work Permit	<input type="checkbox"/>	Essential Material Specification	<input type="checkbox"/>	Purchase Requisition	<input type="checkbox"/>
Environmental Impact Statement	<input type="checkbox"/>	Fac. Proc. Samp. Schedule	<input type="checkbox"/>	Tickler File	<input type="checkbox"/>
Environmental Report	<input type="checkbox"/>	Inspection Plan	<input type="checkbox"/>		<input type="checkbox"/>
Environmental Permit	<input type="checkbox"/>	Inventory Adjustment Request	<input type="checkbox"/>		<input type="checkbox"/>

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision

Document Number/Revision

Document Number Revision

N/A

21. Approvals

[illegible]

Tank Characterization Report for Single-Shell Tank 241-C-108

John M. Conner
Lockheed Martin Hanford Corp., Richland, WA 99352
U.S. Department of Energy Contract 8023764-9-K001

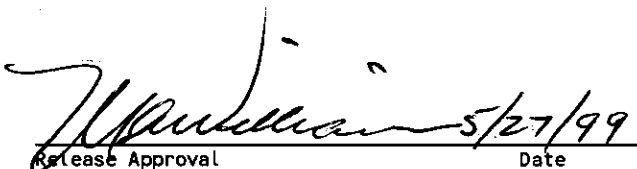
EDT/ECN: ECN-653794 UC: 2070
Org Code: 74B20 CACN/COA: 102217/EI00
B&R Code: EW 3120074 Total Pages: **151**

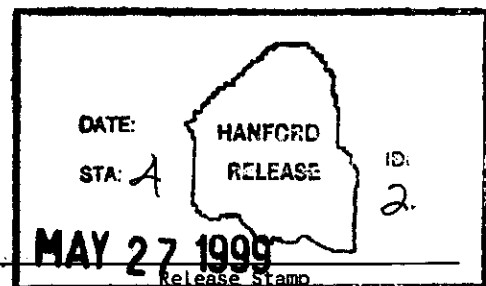
Key Words: Waste Characterization, Single-Shell Tank, SST, Tank 241-C-108, Tank C-108, C-108, C Farm, Tank Characterization Report, TCR, Waste Inventory, TPA Milestone M-44

Abstract: N/A

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6.0 CONCLUSIONS AND RECOMMENDATIONS

The characterization of tank 241-C-108 presented in this TCR is based on several sampling and analysis events. The tank was sampled using the push mode core method in June 1994. However, because of insufficient recovery, three auger samples were obtained in November and December 1994. The tank headspace was also sampled in August 1994.

The two primary data requirements for the Ferrocyanide Safety Program DQO (Meacham et al. 1994) were satisfied. No exothermic reactions were observed, and the moisture content was inconsequential because the fuel weight percent was below 8 percent. Calculations indicate that more than two-thirds of the ferrocyanide that was originally placed in the tank has degraded.

With the exception of the TGA results of two subsamples of the auger sample 94-AUG-012, all safety screening analytes were within the limits specified in the tank 241-C-108 TCP (Schreiber 1994a). Vapor sampling demonstrated that none of the tank headspace gases exceeded 25 percent of their lower flammability limit. Additionally, the heat load from the radioactive decay of radionuclides is much lower than the 11,700 W (40,000 Btu/h) limit which separates high-heat tanks from low-heat tanks.

As discussed in Section 5.4, the auger sampling analytical results were compared to the HTCE (Brevick et al. 1994a). The results compared poorly. The disparities may be the result of the failure of the TLM to account for an amount of HS waste, or possibly overestimating the amount of waste from the UR process.

The tank 241-C-108 headspace was sampled in August 1994 for gases and vapors to address flammability and industrial hygiene concerns. Collection and analysis of samples has been reported. It was determined that no headspace constituents exceeded the flammability or industrial hygiene notification limits specified in WHC-EP-0562, *Program Plan for the Resolution of Tank Vapor Issues* (Osborne and Huckaby 1994).

The analytical data do not suggest a safety problem with tank 241-C-108, and the amount of waste present in the tank is small; for these reasons, further sampling and analysis are not recommended.

Further evaluation in 1999 of these sampling and analyses data confirms that tank 241-C-108 has been sufficiently sampled for safety screening purposes (Reynolds et al. 1999).

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